

## **Diesel Fleet Maintenance Capabilities**

**Floyd A. Beadle**  
**Independent Consultant - *Diesel Power Systems***  
**562/413-3402      FABeadle@AOL.com**

Floyd Beadle \_ past five years

General Manager of a diesel injection systems facility

Director of Technical Assistance & Field Support

Chief Instructor “Diesel Fuel Systems Theory & Troubleshooting”

## What is an injection systems repair facility?

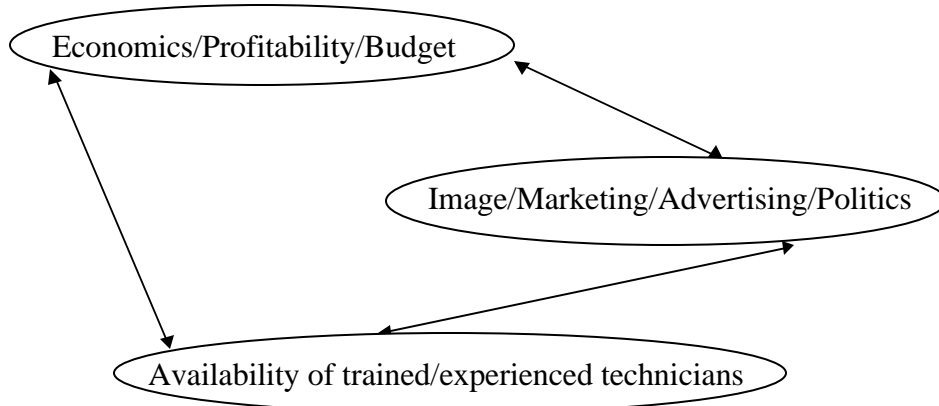


➤ Factory authorized warranty station for Bosch, Delphi, Denso, Stanadyne, Yanmar, & Zexel diesel fuel systems

➤ Calibration, repairs and tech support for diesel fuel injection systems and turbochargers

➤ Member of the "Association of Diesel Specialists"

## Factors affecting Fleet Maintenance



## Economics/Profitability/Budget

Given access to unlimited funds, ALL fleets would have five star fleet maintenance. The reality is that fleet maintenance levels are dictated primarily by '*available funds*'. Whether recruiting, training and equipping a maintenance department; or outsourcing the maintenance of their vehicles, it takes up a sizeable portion of any fleet's operating budget.

We must also consider the source of the funds. Are they generated by taxpayer dollars, or operating income? Is the amount budgeted for fleet maintenance primarily dictated by market forces, contractual work or does it come from a state, county or municipal budget?

### Economics/Profitability/Budget

Currently, in this state, Cleaner Air has been mandated by law. This dictates that elected officials must budget considerable funds for most public agencies if it involves cleaner air. This forces municipalities, school districts and public transportation to allocate increased funding for new equipment and improved maintenance.



Public and government entities

Consequently, maintenance in government, public and school transportation fleets and districts is ahead of the curve; because exemplary fleet maintenance is mandated and funded.

### **Economics/Profitability/Budget**

The larger 'for hire' and private freight carriers use hundreds of thousands of gallons of fuel each year. They have discovered that improved fleet maintenance results in:

- Lower fuel consumption & fuel costs
- Decreased vehicle 'down' time
- Lower 'unplanned' maintenance expense



Consequently, in general, the larger the fleet size, the more likely that their maintenance practices are ahead of the curve.



### **Economics/Profitability/Budget**

#### **Example = Waste and Rubbish Haulers**

➤ Fixed Contracts with the City or area

➤ Must absorb unexpected cost increases (such as fuel or labor) the maintenance budget is a frequent casualty of cost cutting

➤ Harsh operating conditions – frequent starts/stops and landfill dust & dirt (takes it's toll on equipment)

➤ Working conditions makes it one of the more unattractive positions for a fleet maintenance technician (recruiting is a challenge)

The combination of these factors tends to push the maintenance level of this type of fleet below fleet maintenance curve

## Image/Marketing/Advertising/Politics

What role does Image play in fleet maintenance?

- Does the fleet utilize their trailer space as part of their advertising and awareness?
- Is the fleet associated with food or beverage consumption (less likely to tolerate smoking vehicles, sooty or dirty tractors/trailers)
- Is the fleet part of or associated with a public entity, such as a Metropolitan Transportation Agency ( sensitive to public opinion and awareness)



Image or Politically Conscious Fleets tend to be Well above the fleet maintenance curve!

## Availability of trained, experienced maintenance personnel

- The #1 problem for the automotive/truck service industry for the past 5 years has been the lack of new technicians entering the field
- Young men that in previous years might have entered the vehicle service industry, are now more likely to be entering the field of computer hardware or software.
- The end result is an aging fleet maintenance faction that is largely lacking the advanced computer and electronic skills required for today's diesels.
- The industry has seen a higher percentage of foreign born technicians, answering their recruitment ads. Techs whose English language skills are 'challenged', which adversely effects their ability to use written training materials
- Coupled with the increasing complexity of diesel electronic engine management systems and the tools required to service them, the net result is that the average level of training and experience among fleet maintenance personnel is definitely below where we would like for it to be.

## Good News! / Bad News!

**Good** After the start of California's "Periodic Smoke Inspection Program", every training session for fleet technicians that I conducted for the first 18 months was a full house.

**Good** Out of the thousands of vehicles that were smoke tested each year by our firm ,we experienced a failure rate of less than ten percent

**Good** The company set a Bosch sales record for opacity equipment sales. Putting hundreds of units into the field for fleet self compliance

**Good** Twelve months ago in a survey of the firm's top (30) customers by sales ranking, All of them said that they had access to computer and internet service in the workplace.

**Bad** Only about 70% of the applicable fleets are complying with mandatory annual smoke testing.

**Bad** We constantly received opacity meters for repair, only to find that simple maintenance items such as lens cleaning and bulb replacement had not been performed.

**Bad** Twelve months ago in a survey of the firm's top (30) customers by sales ranking, when asked "what is the biggest challenge that you foresee in the near future", the overwhelming #1 answer was "training".

**Bad** Outside of the OEM dealers, none of the heavy duty repair facilities in the survey had yet purchased a diagnostic scanner. This is in complete contrast to the automotive service customers, who are overwhelmingly equipped with OBDII equipment scanners.

## Review

➤Maintenance standards reflect available funds/budget

➤Profitable corporate enterprises with private fleets, and state, county & municipal fleets all tend to have high standards of maintenance

➤The larger the fleet, the more likely that maintenance standards will be high

➤Fleets of 100 vehicles or more tend toward good or excellent maintenance, fleets of 50-100 vehicles tend toward good to fair maintenance and the most likely fleet size to have poor or below average maintenance are the fleets from 1-50 vehicles

➤Maintenance in high profile or image conscious fleets tends to be excellent

➤All of these factors have the same thing in common. The level of fleet maintenance is a direct reflection of the priority that the fleet's management has assigned to it. If management fails to budget the funds necessary for maintenance, maintenance suffers.

➤Diesel fleet maintenance technicians are neither as well trained or as well equipped as we would like

➤Without question, there are exceptions to all of these guidelines

## Outlook

The OEM engine and vehicle manufacturers are investing very heavily in new training materials, utilizing the very latest in computer and video technology to ensure that their organizations are prepared to support their latest product offerings. PDA's, streaming video and wireless technology is being used to help monitor and maintain today's fleet vehicles.

There is a new unwritten guideline for component suppliers to the OEM engine and vehicle manufacturers. *The OEM's want to be able to offer the market a truck capable of a million miles without the failure of any critical system or component.*

As diesel fuel systems gravitate away from hydro-mechanical controls toward electronic engine management systems, the major injection system manufacturers are encouraging their support networks to begin adding service bays capable of complete vehicle diagnosis. They recognize that they will no longer be able give the same level of support to the engine manufacturers through component repair or replacement only.



The Association of Diesel Specialists has responded to the requests from their members by offering "on-engine" diagnostic courses

Bosch Diesel Service USA has added a series of "on-engine" classes to their 2002 training schedule

So, undeniably there is a support structure in place to backstop the independent fleet maintenance network while they address the challenges that diesel retrofit standards may present them.

*Thank You for your attention*